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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,115	04/18/2006	Takayuki Kishida	3637	4806

7590  
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103 East Neck Road  
Huntington, NY 11743

06/09/2009

EXAMINER
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ROBINSON, ELIZABETH A

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,115	<b>Applicant(s)</b> KISHIDA ET AL.	
	<b>Examiner</b> Elizabeth Robinson	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4-18-2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

**Claim 8 is objected to because of the following informalities: this claim uses the acronym PPS.** It would be clearer if this acronym was defined in the claims. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 2, 3, 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claims 2, 3 and 6 recite the limitation "dispersant type adhesives". The addition of the word "type" extends the scope of the claims so as to render them indefinite since it is unclear what "type" is intended to convey. The addition of the word "type" to the otherwise definite expression renders the definite expression indefinite by extending its scope. *Ex parte Copenhaver*, 109 USPQ 118 (Bd. App. 1955).

The term "mild" in claim 7 is a relative term which renders the claim indefinite. The term "mild" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. There is no definition of what degree of calendaring is considered to be mild.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1 and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (WO/2000/40424), in view of You (US 5,904,761) and evidence given in the Paper Density literature and the article BASF increases latex product prices.**

Regarding claim 1, Chang (Page 2, lines 2-14) teaches a coated paper that is coated with a basecoat and a topcoat. The topcoat comprises a binder (adhesive) and pigments. The basecoat comprises from 0 to 30% satin white with the remainder of the pigment being other white pigments. The basecoat can also comprise a binder that is present at 8 to 20% of total weight (Page 5, lines 25-30). Chang (Page 5, lines 10-15) teaches that the basepaper can be made of any suitable paper pulp composition and preferably is a fully bleached chemical pulp.

Chang does not teach the bulk density of the paper.

As evidenced by the Paper Density literature, the typical density of pulp sheet is 0.69 g/cc.

The paper of Chang either meets the bulk density limitation based on the typical density of a pulp sheet or it would be obvious to one of ordinary skill in the art to choose

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an appropriate basepaper, since Chang teaches that the paper can be chosen to meet desired properties.

The basecoat can have a coating weight of 10 to 14 gsm (Page 5, lines 2-9) and the topcoat can have a coating weight of 10 gsm (Page 16, lines 26-28). The coating layers can have the same coating weights, the same pigments and binder, in the same amounts as in the instant application. A base paper with the same bulk density, coated with the same coating composition, would have the same bulk density as in the instant application and thus, would meet the coated paper bulk density limitation.

Chang does not teach the average particle size of the satin white.

You (Column 2, lines 13-16 and Column 1, lines 5-9) teaches a satin white pigment for coated paper that provides a more uniform particle distribution in the coating. The satin white has a particle size of  $0.3 \pm 0.1$  microns (Column 2, lines 37-43).

It would be obvious to one of ordinary skill in the art to use the satin white of You, as the satin white of Chang, in order to provide a satin white that has a more uniform particle distribution in a paper coating composition.

Although there is no disclosure that the particle size was measured pursuant to radiolucent particle size measurement, given that You discloses particle size as presently claimed, and absent evidence of criticality regarding how the particle size is measured, it is clear that You meets the requirement in the claim regarding the particle size.

Regarding claims 4 and 5, Chang (Page 5, lines 16-24) teaches that the topcoat layer can have the same pigment mix as in the basecoat.

Regarding claim 6, Chang (Page 14, Table II) teaches that the binder for the topcoat can be Styronol LD615/PVA. As evidenced by the article, BASF increases latex product prices, Styronol is a synthetic latex. Thus, the binder is a combination of a synthetic latex (dispersant type adhesive) and polyvinyl alcohol (a water soluble adhesive). The amount of PVA binder is from 0.5 to 5% (Page 5, lines 25-30).

Regarding claim 7, Chang teaches that the basecoat is coated and then the topcoat is coated. Since these coatings do not happen at the same time, there will be some degree of drying of the base layer prior to coating the topcoat layer. The paper is then finished with a calendering process with a lower nip loading (mild conditions) (Page 18, lines 21-31). Since the calendering occurs after the paper is coated, there will be some degree of drying of the top coat layer prior to calendering.

Regarding claim 8, the basecoat (undercoat) can be coated with a blade coating device (Page 5, lines 2-9). As stated above, the coating can have the same composition and thickness as in the instant application. A coating produced in the same manner from the same composition would have the same PPS smoothness.

**Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (WO/2000/40424), in view of You (US 5,904,761) and evidence given in the Paper Density literature and the article BASF increases latex product prices as applied to claim 1 above, and further in view of Turck (US 3,976,626).**

Regarding claim 2, as stated above, Chang using the satin white particles of You, teaches a coated paper that meets or can be obviously modified to meet the limitations of claim 1. The coating comprises a synthetic latex binder.

Chang is silent regarding the particle diameter of the adhesive latex particles.

Turck (Column 1, lines 8-13) teaches that the optimum size of the latex particles for binders in coating agents for paper (Column 2, lines 10-11) is from approximately 1000-2000 angstroms (100-200 nm) to ensure good film formation.

It would be obvious to one of ordinary skill in the art to choose a binder for Chang, with a latex particle size as taught by Turck, in order to ensure good film formation for the paper coating.

Regarding claim 3, as stated above, the binder of Chang can comprise both a synthetic latex (dispersant type adhesive) and polyvinyl alcohol (a water soluble adhesive). The amount of PVA binder is from 0.5 to 5% (Page 5, lines 25-30).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Robinson whose telephone number is (571)272-7129. The examiner can normally be reached on Monday- Friday 8 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. R./  
Elizabeth Robinson  
Examiner, Art Unit 1794

June 5, 2009

/Callie E. Shosho/  
Supervisory Patent Examiner, Art Unit 1794